



The challenges we face while developing a HoloLens application for forensic investigators

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« waakzaam en dienstbaar »

HoloLens & Forensics

2012-2015, CSI the Hague:

A project for companies and knowledge institutes to demonstrate their joint capabilities for innovation of CSI Methods and Technology, coordinated by the Netherlands Forensic Institute (not by the police)



The first prototype of mixed reality glasses



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Why did we need innovation?

Microtraces like DNA can provide strong evidence, but...
are often invisible and not always related to the crime that is being investigated



The second prototype of MR glasses



Invisible traces like DNA



In the last 20 years many new techniques have been developed to get information from (almost) invisible microtraces like DNA

How to avoid contamination

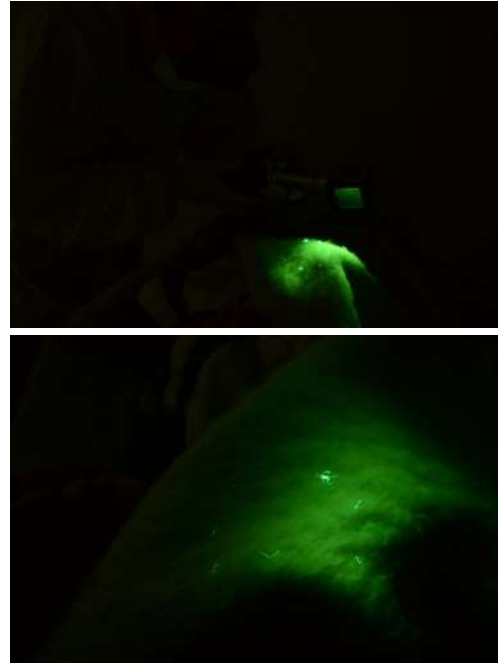


CSI's are packed with all the gear they need on the crime scene... and actions are necessary to avoid contamination

Detection of traces



Forensic light sources



Which traces are relevant?



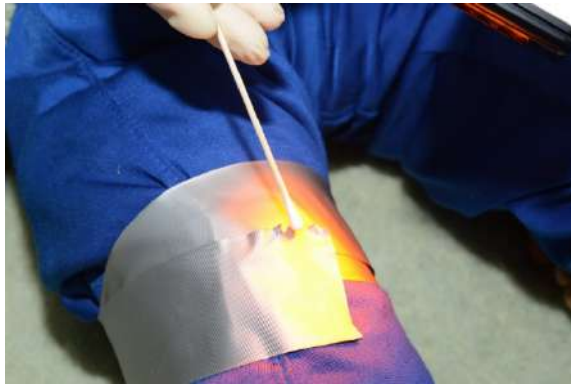
Unforeseen new traces.
Which traces are related to the
crime under investigation?

Testing traces



On site testing

Collecting and documentation

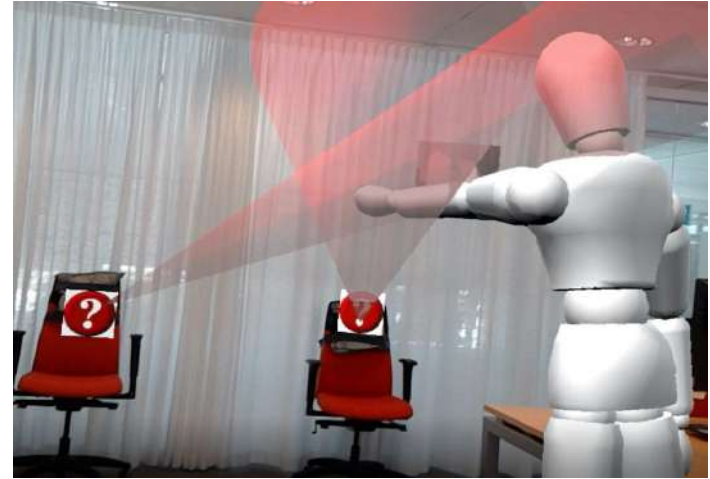
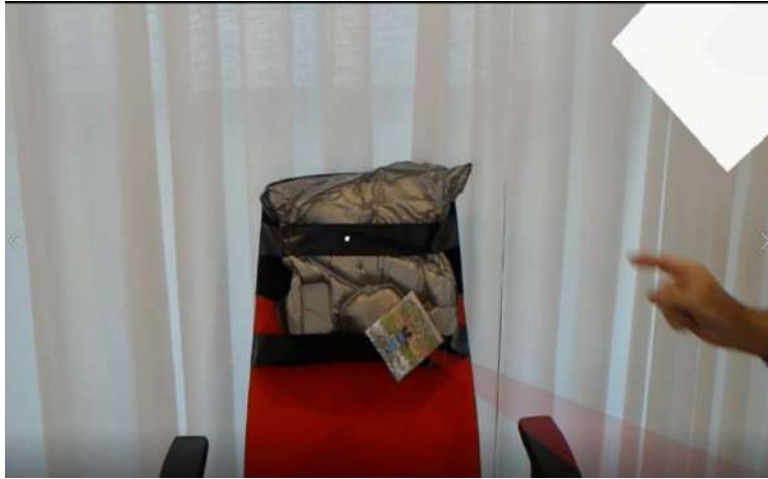


Sampling and documentation of invisible trace material

The Hololens Forensic Toolbox



The Hololens Forensic Toolbox



The Hololens Forensic Toolbox



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Summary

Challenges in modern CSI:

- Contamination
- Registration/documentation
- Communication
- CSI strategy/working plan
- Share knowledge and learn from each other



Join forces, cocreat!

Who are we and why the collaboration?

Technology pusher vs. critical customer



Our goal?

To make the CSI more effective and efficient



The toolkit

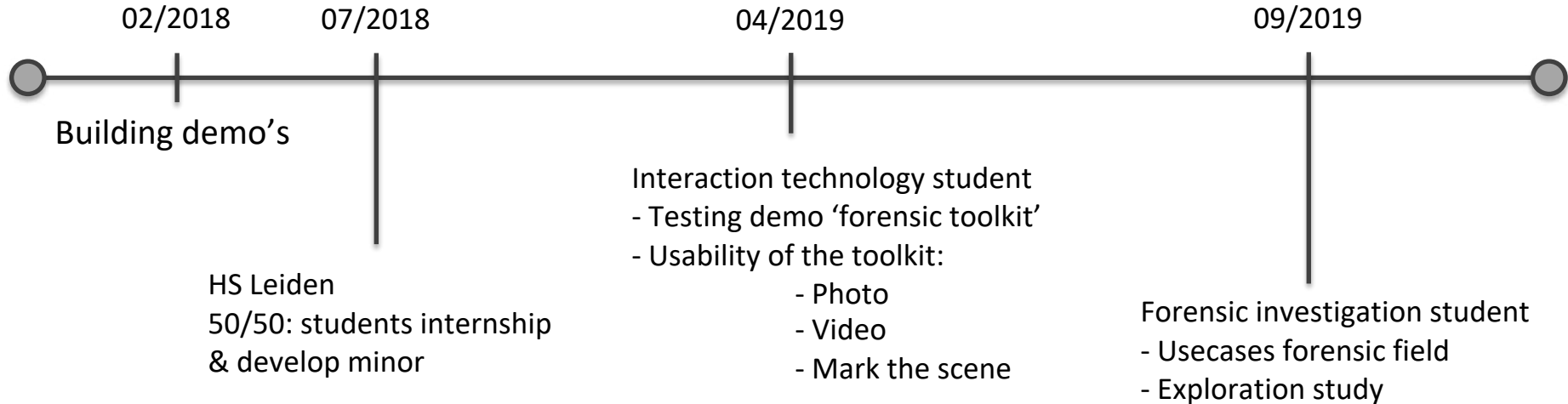


- Business data
- Software engineering
- Interaction technology student
- Forensic ICT



Hogeschool van Amsterdam

- Forensic Investigation
- Game design



The first demo

'Forensic toolkit'

- Photo
- Video
- Mark the scene

'First respons'

- Resistance
- Unknown
- Try-out

'Gain interest'

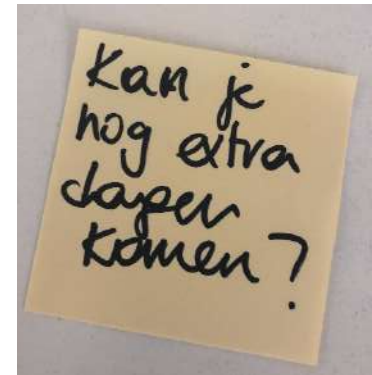
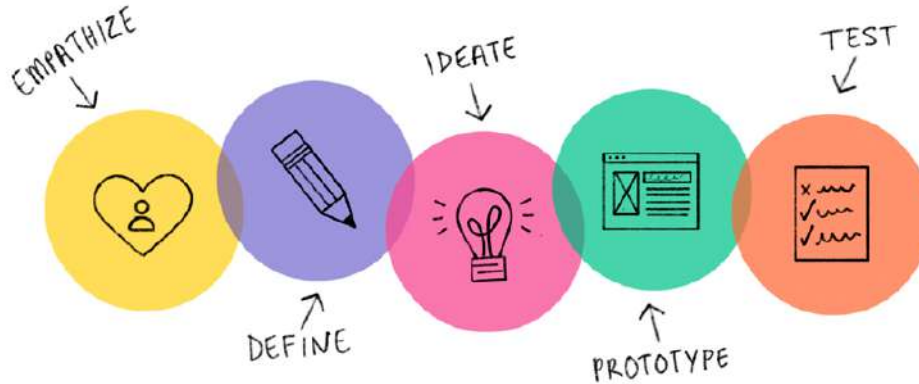
- Learning by doing
- Brainstorm/collect
- Use feedback

'Collaboration'

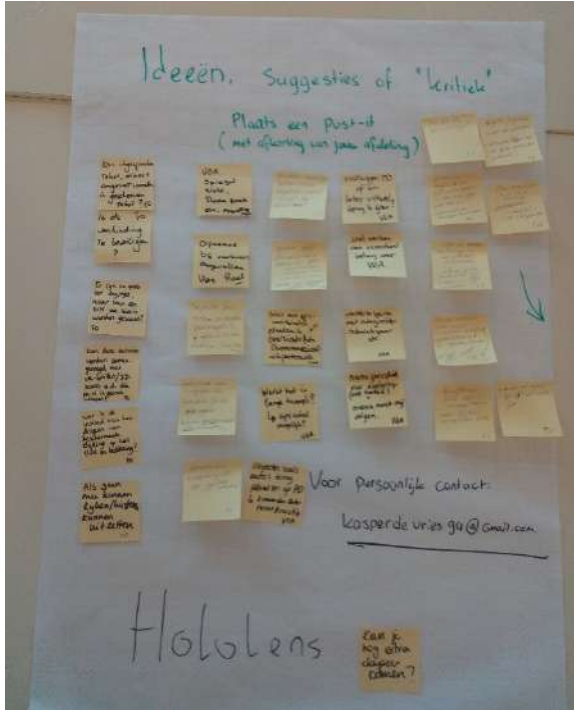
- Focus on their needs
- Prioritise together
- Experiment

Then the toolkit itself
will show it's profit

04/2019



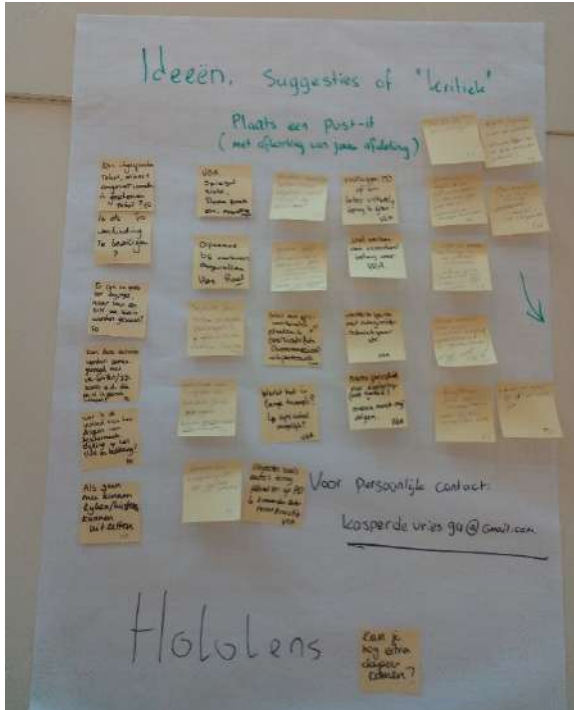
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Top 3 (all specialists)

- Less clicks
- Photo frame
- Marking the scene





Top 3 (digital)

- Hotspots (pop-up)
- Categories by scenarios
- Zoom in (photos)

Top 3 (CSI)

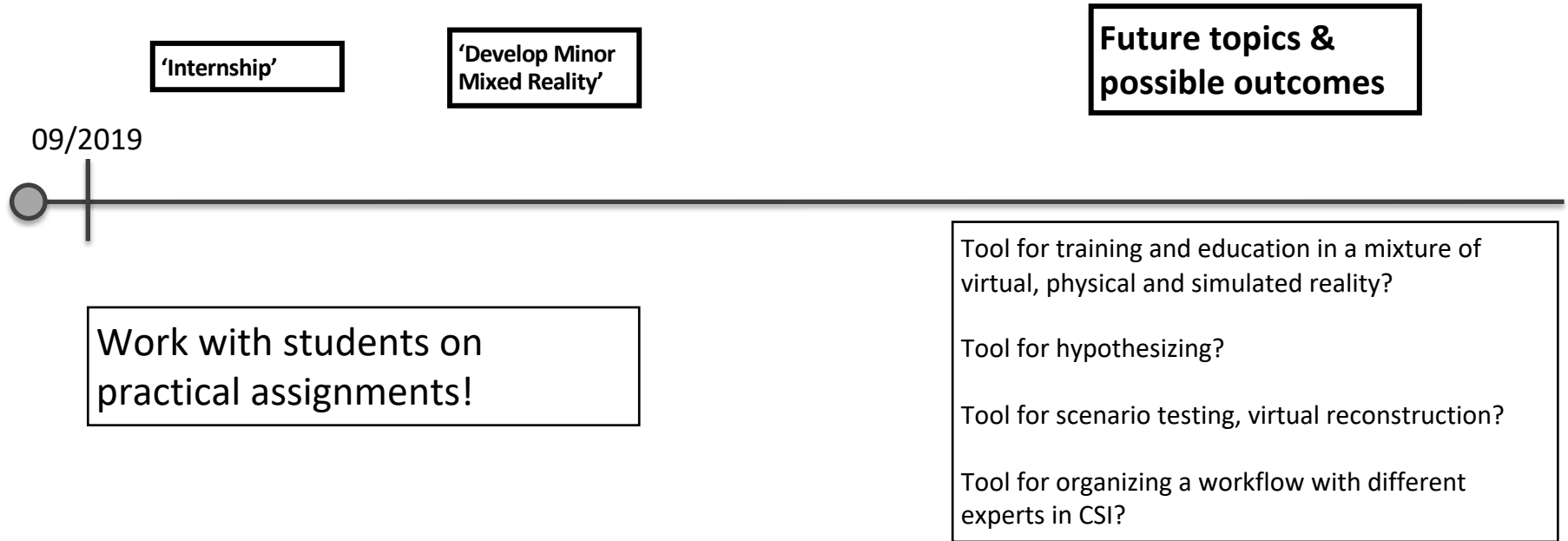
- Speech to text (report)
- Record action with location and label
- Register label and link to trace evidence

Top 3 (traffic)

- Record scene
- Record specific actions
- Marking the scene



Now and future





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